

Study of the disorientation ...

S/126/62/013/004/018/022
E091/E435

conditions of annealing (particularly the temperature), impurity content, etc. The disorientation of blocks increases as a result of application of constant stress during creep, the most intense increase in disorientation appearing in the first stage of creep. The change in disorientation with increase in deformation during creep depends to a slight extent on the applied stress and testing temperature. However, the final stage of block disorientation, occurring between the end of the first stage of creep and fracture, is identical in specimens tested within a definite range of stress and temperatures. In this range of relatively low temperatures and not very low stresses, a change in temperature and stress does not affect the final value of disorientation after fracture (outside the above range, increase in temperature and decrease in stress lead to a decrease in disorientation). The final value of the mean angle of disorientation depends on the degree of disorientation of the initial mosaic structure. The relationships involving the mean angle of disorientation in annealed aluminium and aluminium fractured in creep (in the range of temperature and stress where

Card 2/3

Study of the disorientation ...

S/126/62/013/004/018/022
E091/E435

the mean disorientation of blocks after fracture is identical), are linear and well-defined. The above relationships apply to aluminium of various degrees of purity and to aluminium alloys. Thus, the greater the degree of disorientation of the original structure, the greater will be the disorientation of the structure at the point of fracture. S.N.Zhurkov directed the work. There are 4 figures and 2 tables.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR
im. A.F.Ioffe (Physicotechnical Institute AS USSR
imeni A.F.Ioffe)

SUBMITTED: July 21, 1961

Card 3/3

S/126/62/013/005/011/031
E091/E435

AUTHORS: Zhurkov, S.N., Betekhtin, V.I., Slutsker, A.I.

TITLE: Block disorientation and strength of aluminium

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.5, 1962,
718-823

TEXT: The relationship between the degree of block disorientation and strength to rupture of aluminium was investigated. The choice of a strength parameter was governed by the authors' desire to provide a criterion which, like the U.T.S., had a conventional value. It would then depend on the time during which a body was in the stressed state. This time τ is associated with the stress to rupture σ and the temperature T by the exponential relationship

$$\tau = \tau_0 \exp \left[\frac{u_0 - \gamma \sigma}{RT} \right] \quad (1)$$

where R is the gas constant and u_0 , τ_0 and γ are constants determining the strength properties. Heat treatment, cold
Card 1/3

S/126/62/013/005/011/031
E091/E435

Block disorientation ...

working and alloying do not affect the values of u_0 and τ_0 , and all changes in strength of the metal are determined by the coefficient γ , which is thus a well-defined measure of change in the mechanical properties. For this reason the authors used γ as the strength parameter and studied its relationship with the degree of block disorientation, which was determined by X-ray diffraction under small angles. For the investigation, aluminium foil was used, from which flat specimens in the form of a double blade were prepared. The specimens were annealed prior to testing. The tests to rupture were carried out under conditions of uniaxial tension under constant stress and temperature. The dependence of durability on stress and temperature was determined and from the results obtained the value of γ was calculated. It was found that there is a well-defined relationship between γ and the degree of block disorientation: the lower the value of γ the greater the degree of the latter. The quantitative relationship between γ and ϵ_{av} can be expressed by

$$\gamma = \frac{B}{\epsilon_{av}}$$

Card 2/5

Block disorientation ...

S/126/62/013/005/011/031
E091/E435

where the coefficient B is independent of the annealing temperature, work-hardening and purity of the aluminium. There are 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR im. A.F.Ioffe
(Physicotechnical Institute AS USSR imeni A.F.Ioffe)

SUBMITTED: August 21, 1961

Card 3/3

L 11197-63

EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD

ACCESSION NR: AP3000609

B/0181/63/005/005/1326/1334

AUTHOR: Zhurkov, S. N.; Betekhtin, V. I.; Slutsker, A. I.

TITLE: Disorientation of unit structures and the strength of metals

SOURCE: Fizika tverdogo tela, v. 5, no. 5, 1963, 1326-1334

TOPIC TAGS: tensile strength, disorientation, Ag, Ni, Al, Cu, Zn, low-angle scattering, x-ray scattering, dislocations

ABSTRACT: The authors studied the relationship between tensile strength and degree of disorientation in certain metals: Ag, Ni, Al, Cu and Zn. The degree of disorientation was determined by low-angle scattering of x-rays. All the investigated metals exhibit a linear relationship between strength and disorientation in the structure. The role of dislocations is not altogether clear, but it would appear to reduce to a preparation of conditions for disruption to occur. Local restressing is produced, and there occur a consequent lowering of the value of the activation barrier and an acceleration of fluctuating rupture of bonds in the metal. Orig. art. has: 7 figures, 2 tables, and 8 formulas.

Card 1/2

Physical and technical inst. Academy of Sci.

ACCESSION NR: AP4034054

S/0126/64/017/004/0564/0571

AUTHORS: Zhurkov, S. N.; Betekhtin, V. I.; Slutsker, A. I.

TITLE: Time dependence of resistance of two-phase alloys on aluminum base

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 4, 1964, 564-571

TOPIC TAGS: aluminum alloy, duraluminum, copper, magnesium, binding energy, crystal lattice

ABSTRACT: The authors studied the time dependence of the resistance of two-phase alloys of Al with Cu (4, 0.6, and 2.7%) and Al with Mg (2%) in stable and unstable states. For these experiments, the alloys were prepared using a flux of 50% NaCl + 50% KCl. All the alloys were forged hot and were subjected to a homogenizing process of annealing. After annealing, the specimens were formed to double blades 0.1 mm thick, with the length of the homogeneous deformation part of 22 mm and a width of 3 mm. The experiments were performed under conditions of uniaxial tension at constant stress and constant temperature, following the procedure of S. N. Zhurkov and T. P. Sanfirova (DAN, SSSR, 1955, 101, 237). The results showed the time dependence of the resistance of a two-phase alloy in the stable state (after high-temperature annealing) generally followed the relation $\tau = \tau_0 \exp\left(\frac{U_0 - U}{RT}\right)$.

Card 1/2

ACCESSION NR: AP4034054

where U_0 , τ_0 , γ are constants depending on the resistance properties of the alloy, τ - durability, R - gas constant, σ - applied stress, and T - temperature. Separation of the second phase did not seem to affect the two parameters U_0 and τ_0 , corresponding to the binding energy of the atoms of pure Al and the frequency of vibration of the atoms in the crystal lattice. The phenomenon of hardening was observed from the experimental data at phase separation. This is probably not due to change in the binding energy of the atoms but to a change in the third parameter γ . The time dependence of resistance in the metastable state did not follow the above law. The departure from this law corresponds to the instability of the alloy state. The authors thank L. I. Vasil'yev for discussion of the results. Orig. art. has: 1 formula, 6 figures, and 1 table.

ASSOCIATION: Fiziko-tekhnicheskii institut im A. F. Ioffe AN SSSR (Physico-Technical Institute, AN SSSR)

SUBMITTED: 20May63

ENCL: 00

SUB CODE: MM

NO REF SOV: 026

OTHER: 008

Card 2/2

ZHURKOV, S.N.; BEREKHTIN, V.I.; SLISEER, A.I.

Time dependence of the strength of aluminum-base, two-phase alloys. Fiz. met. i metalloved. 17 no.4:564-571 Ap '64.
(MIRA 17:8)

1. Fiziko-tekhnicheskii institut imeni A.F. Ioffe AN SSSR.

ZHURKOV, S.N.; BETERKHEIN, V.I.; PETROV, A.I.; SLUTSKER, A.I.

Changes in the disorientation of blocks in metals during creep.

Fiz. met. i metalloved. 18 no.2:270-276 Ag '64.

(MIRA 18:8)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR.

L 35902-86 EWT(m)/EWP(w)/T/EWP(t)/ETI LJP(c) JD/JH
ACC NR: AP6007352 SOURCE CODE: UR/0126/65/021/002/0248/0251

AUTHORS: Zhurkov, S. N.; Betekhtin, V. I.; Petrov, A. I.; Slutsker, A. I.

ORG: Physico-Technical Institute im. A. F. Ioffe (Fiziko-tehnicheskiy institut)

TITLE: Strength of aluminum at low temperature and disorientation of blocks

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 2, 1966, 248-251

TOPIC TAGS: aluminum, x ray spectroscopy, crystal lattice, tensile strength, RUPTURE STRENGTH

ABSTRACT: An x-ray analysis of ruptured aluminum specimens, broken at -180C, was carried out. The study was undertaken to determine the reasons for the deviation of the experimentally determined destruction time τ from that calculated from the relationship

$$\tau = \tau_0 e^{\left(\frac{U_0 - \gamma \sigma}{RT}\right)},$$

where U_0 , τ_0 and γ are characteristic constants of the material, σ is the applied stress, R is the gas constant, and T is the absolute temperature. The experimental procedure followed is described by A. I. Slutsker and Ye. A. Yegorov (PTE, 1959, 5, 89). The experimental results are presented graphically (see Fig. 1). It is concluded that the deviation of τ from the theoretical expression is caused by the variation in γ . The variation in γ is believed to be caused by a disorientation of blocks in the aluminum specimens.

Card 1/2

UDC: 539.292:539.4

Card 2/2

L 23029-66 EWT(1)/EWT(m)/T/EWP(t) IJP(c) JD/LHB/GG

ACC NR: AP6009658 SOURCE CODE: UR/0181/66/008/003/0767/0773

AUTHORS: Betekhtin, V. I.; Slutsker, A. I.

ORG: Physicotechnical Institute im. A. F. Ioffe AN SSSR, Leningrad
(Fiziko-tehnicheskii institut AN SSSR)

TITLE: Scattering of x-rays at small angles by the mosaic structure
of metals

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 767-773

TOPIC TAGS: x ray scattering, grain structure, metallographic
examination, small angle scattering, crystal lattice distortion,
crystal dislocation

ABSTRACT: With an aim at obtaining ^{2/}more reliable estimates of the
degree of disorientation of mosaic blocks, connected with the dis-
location distribution density in block boundaries, the authors derive
a more rigorous expression for the angular distribution of the inten-
sity of x-rays scattered by such blocks at small angles. The calcu-
lation is carried out for the case of intragrain double reflections

Card 1/3

L 23029-66

ACC NR: AP6009658

(i.e., both reflecting blocks belonging to a single grain), with each grain regarded as an aggregate of blocks with orientations distributed about a certain direction in the grain. The block distribution is assumed to be fairly narrow and Gaussian. The polycrystalline volume exposed to the primary x-radiation is assumed to contain a large number of randomly oriented grains. A more accurate relation is obtained between the small-angle scattering and the block-orientation distribution function. The contribution of the microscopic distortions of the crystalline lattice and of the block dimensions to the small-angle scattering is determined. A special small-angle setup with a broad x-ray beam, described elsewhere (PTE No. 6, 89, 1959) was used, and the broadening due to the microscopic distortions and to the block dimensions was measured with a standard apparatus (URS-501). The results are used to determine the parameter of the Gaussian distribution of the block orientation and the average block disorientation angle. The connection between the block disorientation and dislocation characteristics, obtained on the basis of this method, agrees with that obtained by others, so that the method employed can be used to estimate reliably the degree of disorientation of the block and can be used successfully to analyze the dislocation structure of

Card

2/3

L 23029-66

ACC NR: AP6009658

metals. The author thanks S. N. Zhurkov for guidance, continuous attention, and interest in the work. Orig. art. has: 3 figures, 5 formulas, and 2 tables.

SUB CODE: 20/ SUBM DATE: 23Jul65/ ORIG REF: 008/ OTH REF: 011

Card

3/3 pla

MEFERHTINA, O. A.

Dissertation: "Stratigraphy and Conditions for the Formation of Coal-Bearing Deposits of the Yerunakova Series in the Prisalair Belt of the Kuzbass." Cand Geol-Min Sci, Tomsk Polytechnic Inst, Tomsk, 1953. Referativnyy Zhurnal--Geologiya, Geografiya, Moscow, Jul 54.

SO: SUN No. 356, 25 Jan 1955

BE TEKHITINA, O.A.

BETEKHITINA, O.A.

Earliest Devonian deposits in the northwestern region of the Gornyy
Altai. Trudy Gor.-geol.inst. Zap.-Sib.fil.AN SSSR no.13:111-118 '53.
(MLRA 8:12)

(Altai Mountains--Geology, Stratigraphic)

BETEKHTINA, O. A.

15-1957-7-9035

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,
p 29 (USSR)

AUTHOR: Betekhtina, O. A.

TITLE: Stratigraphy of the Yerunakovskiy Series of the
Tagaryshskiy Deposit, Kuznets Basin (Stratigrafiya
yerunakovskoy svity Tagaryshskogo mestorozhdeniya
Kuzbassa)

PERIODICAL: Tr. Tomskogo un-ta, 1956, vol 135, pp 165-175

ABSTRACT: A study of fossil material from drill holes in the
deposit has permitted the division of the Yerunakovskiy
series into four stratigraphic horizons. The faunas
of the different horizons are distinguished not only
by their kind and quantity but also by their overall
character. They are either abundant ("flourishing")
or scarce ("oppressed"). Five new species of pelecypods
have been described from the genus Anthro-
conauta: A. khalfini from the fourth horizon (Vegozov-

Card 1/2

Stratigraphy of the Yerınakovskiy Series of the Tagaryshskiy Deposit, Kuznets Basin (Cont.) 15-1957-7-9035

skiy bed); A. gibbosa from the first and second horizons (Kil'chigizskiy subseries and the base of the Belovskiy bed); A. moltchanovi from the second and third horizons (Belovskian and Yegozovskiy beds); and A. exilis and A. mrassielaeformis from the second horizon (Belovskiy bed). The division into four stratigraphic horizons is confirmed by fossil plants. Noeggerathiopsis candalepensis Neub. var. tenuifolia var. n. are described from the lower part of the second horizon. One table.

Card 2/2

O. M. Martynova

SUKHOV, S.V.; BETEKHTINA, O.A.

Foliation of Cordaites in the Kuznetsk Basin. Trudy SNIGGIMS
no.8:130-133 '60. (MIRA 15:9)
(Kuznetsk Basin—Cordaites)

BETEKHTINA, O.A.

Compiling paleofaunistic maps of the Kuznetsk Basin. Dokl. AN SSSR
141 no.2:425-428 N '61. (MIRA 14:11)

1. Institut geologii i geofiziki Sibirskogo otdeleniya Akademii
nauk SSSR. Predstavleno akademikom A.A.Trofimukom.
(Kuznetsk Basin--Paleontology, Stratigraphic--Maps)

BETEKHTINA, O.A.

Permian sediments of the Sayan-Altai mountain area. Trudy
SNIIGGIMS no.21:362-378 '62. (MIRA 16:12)

BENEDIKTOVA, R.N.; BETEKHTINA, O.A.

Phylum Mollusca. Trudy SNIIGGIMS no.21:425-440 '62. (MIRA 16:12)

BETEKHTINA, O.A.; GORELOVA, S.G.

Paleoecologic regionalization of the Kuznetsk Basin territory
for the Late Paleozoic. Paleont. zhur. no.1:26-38 '65.

(MIRA 18:4)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.

BETELEV, N.P.

Presence of hydrogen in the composition of natural gas in the
southeastern Ustyurt. Dokl. AN SSSR 161 no.6:1422-1425 Ap '65.
(MIRA 18:5)
1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
neftyanoy institut. Submitted December 1, 1964.

~~BELELEV, N.P.; ROSTOVTSEVA, L.F.; YUSHKO, L.A.~~

Data on the stratigraphy, lithology, and facies of Tournai and
lower Visé sediments in the Tatar A.S.S.R. Trudy VNIGNI no.14:
224-244 '59. (MIRA 12:10)
(Tatar A.S.S.R.--Geology, Stratigraphic)

BETEIEV, N.P.

Lower Vise terrigene sediments of the Tatar A.S.S.R. Bul.
MOIP. Otd. geol. 34 no.5:155 S-0 '59. (MIRA 14:6)
(Tatar A.S.S.R. --Sediments (Geology))

BETELEV, N. P., Cand Geol-Min Sci -- (diss) "Stratigraphy and lithology of the Lower Vizeyskiye Deposits of Tataria." Moscow, 1960. 18 pp; 1 page of tables; (Ministry of Geology and Conservation of Resources USSR, All-Union Scientific Research Geological Survey Petroleum Inst -- VNIGNI); 180 copies; price not given; (KL, 27-60, 150)

BETELEV, N.P.

Find of boehmite in "biscuit" type kaolinitic clays of the
Stalinogorsk horizon in the lower Carboniferous of Tatarstan.
Dokl.AN SSSR 133 no.4:928-930 Ag '60. (MIRA 13:7)

1. Geologicheskii institut Akademii nauk SSSR. Predstavleno
akad. N.M. Strakhovym.

(Chistopol' region--Boehmite)
(Clay)

BETELEV, N.P.

Some characteristics of the geologic history of Tatarstan during the Malinovka, Stalinogorsk, and Tula time of the lower Carboniferous. Izv. AN SSSR. Ser.geol. 26 no.1:72-80 Ja '61. (MIRA 15:6)

1. Geologicheskii institut AN SSSR, Moskva.
(Tatar A.S.S.R.—Geology, Stratigraphic)

BETELEVA, T.G.; NOVIKOVA, L.A.

Electrophysiological study of the hippocampus and its reactions
to afferent stimulation. Fiziol.shur. 46 no.1:41-49 Ja '60.

(MIRA 13:5)

1. From Electrophysiological laboratory, Institute of Defectology
of the Academy of Pedagogical Sciences of R.S.F.S.R., Moscow.
(HIPPOCAMPUS physiol.)

BETELEVA, T.G.; NOVIKOVA, L.A.

Electrical activity of different areas of the cerebral cortex
and reticular formation during exclusion of the olfactory analyzer.
Zhur.vys.nerv.deiat. 11 no.3:527-535 My-Je '61. (MIRA 14:7)

1. Electrophysiological Laboratory, Institute of Defectology,
R.S.F.S.R. Academy of Pedagogical Sciences, Moscow; Chair of
Higher Nervous Activity, Moscow University.
(SMELL) (NERVOUS SYSTEM)

VORONIN, L.G.; GUSEL'NIKOVA, K.G.; IORDANIS, K.A.; BETELEVA, T.G.; LINKOVA, N.V.;
POLYANSKIY, V.B.

Effect of electric stimulation of the reticular formation on
conditioned reflex activity. Trudy Inst. vys. nerv. deiat.
Ser. fiziol. 6:195-202 '61. (MIRA 14:12)

1. Iz Laboratorii sravnitel'noy fiziologii vysshey nervnoy
deyatel'nosti, zav. - L.G.Voronin.
(CONDITIONED RESPONSE)

BETELEVA, T.G.

Effect of electrical stimulation of the anterior section of the
hypothalamus on the food-obtaining conditioned reflexes in a
rabbit. Trudy Inst.vys.nerv.deiat. Ser.fiziol. 7:257-264 '62.
(MIRA 16:2)

(CONDITIONED RESPONSE) (ELECTROPHYSIOLOGY)
(HYPOTHALAMUS)

BETELEVA, T.G.

Induced potentials of the optic chiasm in rabbits during stimulation of the eye with a single light flash. Zhur.vys. nerv.deiat. 13 No.2:291-300 Mr-Apr'63. (MIRA 16:9)

1. Chair of Physiology of Higher Nervous Activity, Moscow University.

(OPTIC CHIASM) (LIGHT--PHYSIOLOGICAL EFFECT)
(ELECTROPHYSIOLOGY)

BETELMAN, A. I.

"Clinical Procedures Concerned with Removable Dental Prosthetics," Sub
16 Dec 47, Central Inst for the Advanced Training of Physicians

Dissertations presented for degrees in science and engineering in Moscow
in 1947

SO: Sum No. 457, 18 Apr. 55

BETEL'MAN, A.I.

Medicine

Orthopedic stomatology

Moskva, Gos. isd-vo med. lit-ry, 1951. Pod. red. B.N. Bynina, Izd. 2.

BETEL'MAN, Abram Isaakovich, professor; VELIKANOVA, M.M., redaktor;
GITSHENYN, A.D., tekhnicheskiy redaktor

[Dental prosthesis; clinical treatment and replacement of teeth and
rows of teeth] Zubnoe protezirovanie; klinika i protezirovanie
defektov zubov i subnykh riadov. Kiev, Gos. med.izd-vo USSR, 1956.
335 p. (MLRA 10:1)

1. Zaveduyushchiy kafedroy optopedicheskoy stomatologii Kiyevskogo
ordena Trudovogo Krasnogo Znameni meditsinskogo instituta im.
akad. A.A.Bogomol'tsa. (for Betel'man)
(DENTAL PROSTHESIS)

BETEL'MAN, A.I., professor (Kiyev)

Morphological peculiarities of the occlusion of deciduous teeth.

Probl. stom. 3:359-364 '56

(MLRA 10:5)

(TEETH--ABNORMITIES AND DEFORMITIES)

BETEL'MAN, A.I., prof. (Kiyev)

Clinical prerequisites for orthopedic intervention in para-
dentosis. Probl.stom:327-333 '58. (MIRA 13:6)
(GUMS--DISEASES) (ORTHODONTIA)

BETEL'MAN, A.I., prof. (Kiyev)

Diagnosis of the forms and stages of paradentosis. Probl.stom.
4:209-214 '58. (MIRA 13:6)

(GUMS--DISEASES)

BETEL'MAN, A.I., prof.

Problems in the mutual relation of external and internal agents,
general and particular factors, form and function in orthopedical
stomatology. Nek.filos.vop.med.i est. no.2:345-355 '60.

(MIRA 15:7)

1. Kafedra ortopedicheskoy stomatologii Kiyevskogo meditsinskogo
instituta imeni Bogomol'tsa.

(STOMATOLOGY) (ORTHOPEDIA)

BETEL'MAN, A.I., prof.

Merits of removable orthodontic apparatus. Stomatologiya 40 no.2:
68-73 Mr-Apr '61. (MIRA 14:5)

1. Iz kafedry ortopedicheskoy stomatologii (zav. - prof. A.I.Betel'man)
Kiyevskogo meditsinskogo instituta (direktor i dotsent V.D.Bratus').
(ORTHODONTIA--EQUIPMENT AND SUPPLIES)

BETEL'MAN, A.I.

Methods for fixing a complete dental prosthesis for the mandible.
Stomatologiya 41 no.4:72-75 J1-Ag '62. (MIRA 15:9)

1. Iz kafedry ortopedicheskoy stomatologii (zav. - prof. A.I.
Betel'man) Kiyevskogo meditsinskogo instituta.
(DENTAL PROSTHESIS)

BETEL'MAN, A.I., prof.

Role of rickets in the development of maxillodental deformities.
Stomatologiya 42 no.2:62-64 Mr-Apr'63 (MIRA 17:3)

1. Iz kafedry ortopedicheskoy stomatologii (veduyushchiy
prof. A.I.Betel'man) Kiyevskogo meditsinskogo instituta.

BETEL'MAN, Abram Isaakovich; GORODETSKIY, Sh. I., red.

[Orthopedic stomatology] Ortopedicheskaya stomatologiya.
Moskva, Meditsina, 1965. 403 p. (MIRA 1813)

BETEL'MAN, Abram Isaakovich; POZDNYAKOVA, Antonina Illarionovna;
MUKHINA, Anastasiya Denisovna; ALEKSANDROVA, Yuliya
Mikhaylovna; GINZBURG, I.S., red.

[Pediatric orthopedic stomatology] Ortopedicheskaya stoma-
tologiya detskogo vozrasta. Kiev, Zdorov'ia, 1965. 406 p.
(MIRA 18:9)

BETEL'MAN, A.I., prof. (Kiyev)

Indications and methodology for the correction of anomalies in the
position of individual teeth. Probl. chel.-lits. khir. no.1:229-233
'65. (MIRA 18:10)

BETELMAN, R. A., Cand of Med Sci -- (diss) " The Effect of Pre-Operation Preparation
on the Activity of the Heart in Patients with Hyperthyroid Goiter," Kiev, 1959,
20 pp (Kiev Medical Institute im Academician A. A. Bogomolets) (KL, 8-60, 119)

BUTEL'MAN, R.A.

Methods of preoperative preparation of patients with the hyperthyroid form of goiter and disturbance of cardiac activity. Vrach. delo no.5:483-485 My '59. (MIRA 12:12)

1. Kafedra khirurgii (zav. - zasluzhennyy deyatel' nauki, prof. A.K. Gorchakov) stomatologicheskogo fakul'teta Kiyevskogo meditsinskogo instituta.

(HYPERTHYROIDISM)

(HEART)

BETEL'MAN, R.A.

Characteristics of the indices of external respiration in older people. Vrach.delo no.11&43-47 N '62. (MIRA 16:2)

1. Dispansernoye otdeleniye (zav. -- kand.med.nauk F.O. Cherniy)
instituta gerontologii i eksperimental'noy patologii AMN SSSR.
Nauchnyy rukovoditel' -- chlen-korrespondent AMN SSSR, prof.
D.F. Chebotarev.

(RESPIRATION)

BETEL'MAN, R.A.

Changes in the electrocardiogram in elderly people. Vrach.
delo no.12:123-124 D '63. (MIRA 17:2)

1. Dispansernoye otdeleniye (zav. - kand. med. nauk F.O.
Cherniy) Instituta gerontologii i eksperimental'noy pato-
logii AMN SSSR. Nauchnyy rukovoditel' - chlen-korrespondent
AMN SSSR prof. D.F. Chebotarev.

BETEL'MAN, R.A.; BUYNOVICH, G.V.

Some changes in the function of the myocardium and lungs rising
with the aging. Vop. geron. i geriat. 4:86-91 '65.

(MIRA 18:5)

1. Institut gerontologii AMN SSSR, Kiyev.

BETEMBAYEVA, M.

"Structure and Properties of a Complex-Weave Cotton Mapped Fabric." Min Culture USSR,
Moscow Textile Inst, Moscow, 1953

(Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis', No. 32, 6 Aug 55

BETER, Ye.V.; GULYAMOV, U.G.

Role of $\pi\pi$ -interaction in the formation of Feretti "triplets".
Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 8 no.1:90-92 '64.

(MIRA 17:6)

1. Institut yadernoy fiziki AN UzSSR.

L 23759-66 EET(m)/T

ACC NR: AP6014808

SOURCE CODE: UR/0367/65/001/001/0072/0075

AUTHOR: Azimov, S. A.; Beter, Ya. V.--Beter, E. V.; Gulyamov, U. G.

ORG: none

TITLE: Upper limit of cross section for coherent interactions of fast pi-mesons with heavy nuclei of an emulsion

SOURCE: Yadernaya fizika, v. 1, no. 1, 1965, 72-75

TOPIC TAGS: pi meson, nuclear emulsion, pion, particle interaction, particle cross section

ABSTRACT: A method is proposed for selecting instances of coherent production of two pions on a nucleus by a high-energy pion. The method is based on information obtained from angular measurements only. The upper limit of the cross section is evaluated for the process on heavy nuclei of a photoemulsion with the momentum of the primary pions as 17.2 BEV/c. Orig. art. has: 1 figure and 10 formulas. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 25Jun64 / OTH REF: 008

Card

1/1

ACC NR: AP6018852

SOURCE CODE: UR/0367/65/002/006/1049/1053

AUTHOR: Azimov, S. A.; Beter, Ye. V.; Gulyamov, U. G.; Yeroshkina, N. B.; Levin, A. Ya.

ORG: Institute of Nuclear Physics, AN UzSSR (Institut yadernoy fiziki AN UzSSR)

TITLE: Coherent inelastic interactions between high-energy pi sup minus mesons and heavy nuclei in photoemulsions / This paper was given at the 14th Annual Conference on Nuclear Spectroscopy, Tbilisi, February 1964/

SOURCE: Yadernaya fizika, v. 2, no. 6, 1965, 1049-1053

TOPIC TAGS: pi meson, heavy nucleus, inelastic interaction, pion, nuclear emulsion

ABSTRACT: The characteristics of interactions assumed to be the coherent inelastic reactions $\pi + A \rightarrow \pi^+ + \pi^- + \pi^- + A'$ on heavy nuclei in a photoemulsion are investigated for 17.2 GeV/c primary pion momenta. The cross-section of this process is found to be 5.4 ± 1.4 mbn. Compared with the corresponding value for carbon, this indicates a dependence of the cross-section on the atomic number of the type $A^{1/2}$ or $A^{2/3}$. Orig. art. has: 5 figures and 8 formulas. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 17Apr65 / ORIG REF: 003 / OTH REF: 012

Cord 1/1 45

BETTEREV, M.M.; BOL'SHOV, M.M.; MOKSIN, S.I., agronom, retsentsent, KOZKO,
L.I. inzhener, redaktor; MATVEYEVA, Ye.N. tekhnicheskii redaktor

[Booklet on safety and hygienic measures for working on pulled
and mounted agricultural machinery and equipment] Pamiatka po
tekhnikе bezopasnosti i sanitarii pri rabote na pritsepnykh i
naveshnykh sel'skokhoziaistvennykh mashinakh i orudiakh. Moskva,
Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 25 p.
(Agricultural machinery--Safety measures) (MLRA 8:8)

~~BEYER~~EV, M.M.; BOL'SHOV, M.M.; MOKSIN, S.I., agronom, retsenzents; KOZKO,
L.I., inzhener, redaktor; MATVYEVA, Ye.N., tekhnicheskiy redaktor

[Booklet on safety and hygienic measures for working on combines]
Pamiatka po tekhnike bezopasnosti i sanitarii pri rabote na kom-
bainakh. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry,
1955. 29 p. (MLRA 8:6)

(Harvesting--Safety measures)

BETTEREV, M.M.: BOL'SHOV, M.M.; MOSKIN, S.I., agronom, retsenzent; KOZKO,
B.I., inzhener, redaktor; MATVEYEVA, Ye.N. tekhnicheskii redaktor

[Booklet on safety and hygienic measures for working on tractors]
Pamiatka po tekhnike bezopasnosti i sanitarii pri rabote na
traktore. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.lit-ry,
1955. 31 p. (MLRA 8:8)
(Tractors-Safety measures)

~~BITTEREV~~, M.M., kand.tekhn.nauk; BOL'SHOV, M.M., inzh.; MOKSIN, S.I., red.;
PICHENKIN, I.V., tekhn.red.

[Manual of labor safety in agriculture] Spravochnik po okhrane truda
v sel'skom khoziaistve. Moskva, Izd-vo M-va sel'.khoz. SSSR, 1957.
202 p. (MIRA 11:4)

1. Russia (1923- U.S.S.R.) Upravleniye rabochikh kadrov truda
i sarabotnoy platy.
(Agriculture--Safety measures)

BETTEREV, M.M., kand. tekhn. nauk; BOL'SHOV, M.M., inzh.; MOKSIN, S.I., red.;
USHKOVA, M.P., tekhn. red.

[Safety and sanitation manual for work with agricultural machinery
and tools] Pamiatka po tekhnike bezopasnosti i sanitarii pri rabo-
te na sel'skokhoziaistvennykh mashinakh i orudiakh. Moskva, 1958.
38 p. (MIRA 11:10)

1. Russia (1923- U.S.S.R.) Upravleniye rabochikh kadrov truda
i zarplaty.

(Agricultural machinery--Safety measures)

BETTEREV, M., kand. tekhn. nauk; SHCHUPAKOV, N.

New technological processes and the problems of industrial
hygiene. Okhr. truda i sots. strakh. no. 5:61-63 N '58.

(Technology)

(Industrial hygiene) (MIRA 12:1)

BETTEREV, M., kand.tekhn.nauk

Safety measures for the servicing of mounted agricultural
machinery. Okhr.truda i sots.strakh. no.6:60-61 D '58.

(MIRA 12:1)

(Agriculture--Safety measures)

IGNATOK, A.I., inzh.; BETEREV, M.M., kand.tekhn.nauk, red.; PODVOL'SKIY, L.I., starshiy inzh., red.; EL'TERMAN, V.M., kand.tekhn.nauk, red.; KUGINIS, B.L., red.; VASIL'YEV, Ye.V., starshiy inzh., red.; NEVSKIY, A.I., inzh., red.; GLAGOLEVA, T.A., kand.tekhn.nauk, red.; VROBLEVSKIY, R.V., red.

[Safety engineering regulations and industrial hygiene in electric welding operations] Pravila tekhniki bezopasnosti i proizvodstvennoi sanitarii pri elektrosvarochnykh rabotakh. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 38 p.

(MIRA 14:6)

1. Profsoyuz rabochikh mashinostroyeniya. TSentral'nyy komitet.
2. Moskovskiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov (for Beterov, El'terman, Glagoleva).
3. Nauchno-issledovatel'skiy tekhnologicheskoy institut avtomobil'noy promyshlennosti (for Podvol'skiy).
4. Glavnyy tekhnicheskoy inspektor TSentral'nogo komiteta profsoyuza (for Kuginis).
5. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya (for Vasil'yev).
6. Nachal'nik podotdela energo-oborudovaniya avtozavoda im. Likhacheva (for Nevskiy).
7. Vedushchiy inzh. Vsesoyuznogo proyektno-tekhnologicheskogo instituta stroitel'nogo i dorozhnogo mashinostroyeniya (for Vroblevskiy).

(Electric welding—Safety measures)

BETEREV, M.M., kand.tekhn.nauk

Safeguards in agricultural equipment. Mashinostroitel' no.10:7
'60.

(MIRA 13:10)

(Agriculture--Safety measures)

BETEREV, M., kand.tekhn.nauk

Modernizing foundry machinery. Okhr.truda i sots.strakh. 5
no.1:29-30 Ja '62. (MIRA 15:2)
(Founding---Safety measures)

BETEREV, M.; BOL'SHOV, M.

Let's supply agriculture with safe machinery. Okhr. truda
i sots. strakh. 5 no.5:12-13 My '62. (MIRA 15:5)
(Agricultural machinery.—Safety measures)

BETEREV, M.M.; BOL'SHOV, M.M.; GOLUBEVA, I.A., red.; PECHENKIN,
I.V., tekhn. red.

[Manual on safety measures for work with hay harvesting
machines] Pamiatka po tekhnike bezopasnosti pri rabote na
senouborochnykh mashinakh. Moskva, Sel'khozizdat, 1963.
15 p. (MIRA 16:4)

1. Profsoyuz rabochikh i sluzhashchikh sel'skogo khozyay-
stva i zagotovok. TSentral'nyy komitet.
(Harvesting machinery--Safety measures)

BETEROV, M.M.; BOL'SHOV, M.M.; GOLUBEVA, I.A., red.; PECHENKIN, I.V.,
tekhn. red.

[Manual on safety measures in the operation of feed processing machines] Pamiatka po tekhnike bezopasnosti pri obsluzhivani mashin po pererabotke kormov. Moskva, Sel'khozizdat, 1963. 22 p. (MIRA 16:4)

1. Profsoyuz rabochikh i sluzhashchikh sel'skogo khozyaystva i zagotovok. Tsentral'nyy komitet.
(Agricultural machinery--Safety measures)

BETEREV, M.M.; BOL'SHOV, M.M.; GOLUBEVA, I.A., red.; PECHENKIN,
I.V., tekhn. red.

[Manual on safety measures for work with tractor-mounted
and semimounted machines] Pamiatka po tekhnike bezopasn-
osti pri rabote na traktorakh s navesnymi i polunaves-
nymi mashinami. Moskva, Sel'khozizdat, 1963. 28 p.

(MIRA 16:4)

1. Profsoyuz rabochikh i sluzhashchikh sel'skogo khozyay-
stva i zagotovok. TSentral'nyy komitet.

(Agricultural machinery—Safety measures)

BETEREV, M.M.; BOL'SHOV, M.M.; GOLUBEVA, I.A., red.; PECHENKIN,
I.V., tekhn. red.

[Manual on safety measures for work with tractors and
tractor-drawn machines] Pamiatka po tekhnike bezopasnosti
pri rabote na traktorakh s pritsepnymi mashinami. Moskva,
Sel'khozizdat, 1963. 31 p. (MIRA 16:4)

1. Profsoyuz rabochikh i sluzhashchikh sel'skogo khozyaystva
i zagotovok. Tsentral'nyy komitet.
(Agricultural machinery--Safety measures)

BETEREV, M.M.; BOL'SHOV, M.M.

[Manual on safety measures for working with combines] Pamiatka po tekhnike bezopasnosti pri rabote na kombine.
Moskva, Sel'khozizdat, 1963. 39 p. (MIRA 16:4)

1. Profsoyuz rabochikh i sluzhashchikh sel'skogo khozyaystva i zagotovok. Tsentral'nyy komitet.
(Combines (Agricultural machinery))---Safety measures)

BETEREV, M.M.; BOL'SHOV, M.M.; GOLUBEVA, I.A., red.; PECHENKIN,
I.V., tekhn. red.

[Instructions in safety measures in the use of tractors and
self-propelled chassis for transportation work] Pamiatka po
tekhnike bezopasnosti pri ispol'zovanii traktorov i samo-
khodnykh shassi na transportnykh rabotakh. Moskva, Sel'khoz-
izdat, 1963. 22 p. (MIRA 16:6)

(Tractors--Safety measures)

BETEREV, M.M.; BOL'SHOV, M.M.; RAKITINA, Ye.D., red.

[Manual on labor protection in agriculture] Spravochnik po okhrane truda v sel'skom khoziaistve. Izd.2., perer. i dop. Moskva, Sel'khozizdat, 1963. 615 p.
(MIRA 17:6)

L 28373-66 EEC(k)-2/EWA(h)/EWP(k)/EWT(1)/EWT(m)/FBD/T/EWP(t)/ETI - IJP(c) WG/JD

ACC NR: AF6012851

SOURCE CODE: UR/0368/66/004/004/0302/0305

71
B

AUTHOR: Beterov, I. M.; Chebotayev, V. P.

ORG: none

TITLE: Influence of optical pumping of metastable helium atoms on the operation of a helium-neon laser 25

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 4, 1966, 302-305 27

TOPIC TAGS: gas laser, laser pumping, helium, neon, light excitation, metastable state, gas discharge

ABSTRACT: The authors describe an experiment aimed at demonstrating that the population inversion in He-Ne lasers is brought about by transferring the excitation energy from the metastable 2^3S helium atoms to the neon atoms in s-state. To this end, the population of the upper helium levels was reduced by optically pumping such a laser (lines 11523 and 11614 Å) with light from a helium discharge (20 ma, 2 mm Hg). The decrease in laser power due to the application of the pump pulse was determined by producing a similar power decrease with the aid of a glass plate placed in the laser cavity. From the equality of the loss, the relations are deduced for the dependence of the relative loss on the total loss, on the field density, and on the discharge current, and for the dependence of the mean lifetime of the metastable 2^3S helium atoms on the discharge current. Orig. art. has: 3 figures and 11 formulas. [02]

SUB CODE: 20/ SUBM DATE: 12May65/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 4262

Card 1/1 CC

UDC: 621.375.9 2

L 34051-00 FBD/EMT(1)/EEC(k)-2/T/EWP(k) LJP(c) WG

ACC NR: AP6018451

SOURCE CODE: UR/0051/66/020/006/1078/1080

AUTHOR: Beterov, I. M.; Chebotayev, V. P.

47
E

ORG: none

TITLE: Cross section of inelastic processes in a helium-neon laser 25

SOURCE: Optika i spektroskopiya, v. 20, no. 6, 1966, 1078-1080

TOPIC TAGS: optic pumping, gas laser, helium neon laser, inelastic interaction, *METASTABLE STATE, HELIUM, NEON*

ABSTRACT: Optical pumping as a means of varying the populations of metastable levels of a helium-neon laser is studied. Decrease in the density of the metastable states of helium varies the populations of those neon levels which are excited by collisions with the metastable helium atoms. By measuring the variation in the amplification of the laser and the variation in the density of the metastable helium atoms, the cross section of inelastic processes can be determined. The equipment used to make the measurements is shown in a diagram. The He-Ne laser operates at the wavelengths 1.1523 and 1.1614 μ . The measurements were made on a calibrated attenuator in the form of a plane parallel glass plate inserted in the resonator to determine the generation threshold. The variation in the concentration of metastable helium atoms under the action of a helium lamp was measured from the helium absorption line 3889 Å. Results of

UDC: 621.375.9 : 535

Card 1/2

L 34851-66

ACC NR: AP6018451

measurements are tabulated and evaluated in terms of those given by Javan, et al
(*Phys. Rev. Letters*, 6, 106, 1961). Orig. art. has: 6 formulas, 1 figure, 1 table. [14]

SUB CODE: 20/ SUBM DATE: 04Oct64/ ORIG REF: 005/ OTH REF: 005
ATD PRESS: 503/

Card 2/2 *h*

ACC NR: AP/000037

SOURCE CODE: UR/0051/66/021/005/0654/0656

AUTHOR: Beterov, I. M.; Chebotayev, V. P.

ORG: none

TITLE: Use of optical pumping for the investigation of disintegration of neon levels

SOURCE: Optika i spektroskopiya, v. 21, no. 5, 1966, 654-656

TOPIC TAGS: neon, metastable state, spectral line, pressure effect, line intensity, optic transition, optic pumping

ABSTRACT: To check on the possible decrease in the effective lifetime of neon levels with increasing pressures and on the presence of a nonradiative process of disintegration of the 2p levels of neon, the authors investigated the mechanism of the disintegration of these levels by means of optical pumping, using a procedure employed successfully before for helium (Opt. i spektr. v. 20, 734, 1965). The procedure is based on maintaining a constant concentration of metastable atoms at the investigated levels, so that the pressure dependence of the lifetime can be obtained at constant intensity. The apparatus and the test procedure are described briefly. In the experiments, the light source was pumped with a neon lamp modulated at 1000 cps, and the integral change in the intensity of the lines from the 2p levels was determined with a vacuum photocell and auxiliary equipment. The line intensities remained constant in a pressure range 0.5 - 10 mm Hg. It is therefore concluded that at these pressures there is either no nonradiative disintegration at all, or that its role is negligible. The neon atoms in

Card 1/2

UDC: 621.375.9; 535

ACC NR: AP7000037

the 2p states are disintegrated essentially by spontaneous transitions to the lower 1s levels. It is noted in the conclusion that this procedure can be useful to determine disintegration of levels connected with the metastable state by optically allowed transitions, and in other gases in which optical pumping from the metastable state is sufficiently effective. Orig. art. has: 2 figures and 2 formulas. [02]

SUB CODE: 20/ SUBM DATE: 13Apr66/ ORIG REF: 002/ OTH REF: 001 /
ATD PRESS: 5109

Card 2/2

BETESHEVA, Ye. I.

~~ANALYSIS OF THE DISPERSAL OF LARVAE AND FRY OF FISHES DURING THE WINTER IN THE~~
Dispersal of larvae and fry of fishes during the winter in the
Sea of Japan. Trudy Inst.ocean. 8:291-304 '54. (MLRA 7:11)
(Japan, Sea of--Fishes)

BEITESHEVA, Ye.I.

Some data on the feeding habits of whalebone whales in the region
of the Kurile Islands chain. Trudy Inst. okean. 11:238-245 '54.
(Kurile Islands Region—Whales) (MLRA 8:2)

BETESHEVA, Ye. I.

Food of whalebone whales in the Kurile Islands region (data of 1953).
Trudy Inst. okean. no. 18:78-85 '55. (MIRA 8:12)
(Kurile Islands region--Whales)

BETESHEVA, Ye. I.; AKIMUSHKIN, I. I.

Food of the sperm whale (*Physeter catodon* L.) in the Kurile Islands
region. Trudy Inst. okean. no. 18:86-94 '55. (MLBA 8:12)
(Kurile Islands region--Whales)

BETESHEVA, Ye.I.

Sand dab (*Hippoglossoides platessoides limandoides* Bloch.) of the
Kara Sea. Vop. ikht. no.13:35-38 '59.. (MIRA 13:3)

1. Institut okeanologii AN SSSR.
(Kara Sea--Flatfishes)

BETESHEVA, Ye.I.

Feeding of the sperm whale (*Physeter catodon* L.) and the
beaked whale *Berardius bairdii* Stejneger in the Kurile
Islands area. Trudy Gidrobiol. ob-va 10:227-234 '60.
(MIRA 13:9)
(Kurile Islands--Whales)

BETESHEVA, Ye.I.

Feeding of commercial whales in the Kurile area. Trudy sov. Ikht.
kom. no.12:104-111 '61. (MIRA 14:6)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR.
(Kurile Islands--Whales)

BETESHEVA, Ye.I.

Food of commercial whales in the Kurile area. Trudy Inst.
morf. zhiv. no.34:7-32 '61. (MIRA 14:11)
(Kurile Islands—Whales)

BETESHEVA, Ye.I.; SERGIYENKO, N.I.

Morphology of the stomach and intestines of toothed whales. Zool. zhur.
43 no.6:918-926 '64. (MIRA 17:12)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R.,
Moscow.

BETETTO, M.

Soft rays in the treatment of dermatoses. Acta med.iugosl. 14 no.3:
300-315 '60.

1. Dermatoloska klinika Fakulteta za medicinu i stomatologiju u
Ljubljani
(DERMATOLOGY radio ther)

BULGARIA/Nuclear Physics - Installations and Instruments.
Methods of Measurement and Research.

C-

Abs Jour : Ref Zhur Fizika, No 3, 1960, 5147

Author : Mitrani L., Betev B.

Inst : -

Title : Trigger Feeding of a Couple of Geiger-Muller Counters

Orig Pub : Kokl. Bolg. AN, 1958, 11, No 5, 363-366

Abstract : A method is proposed for connecting two Geiger-Muller counters in such a way as to reduce considerably the depth time of the system. The filaments of both G-M counters are connected to anodes of the tubes of the multivibrator with two stable states. On the cathodes of the counters is applied a ~~negative~~ potential. The parameters of the circuits are chosen to satisfy the condition that the voltage on the counter, connected to the anode of the cut-off tube of the multivibrator, lies within the Geiger region, whereas the voltage on the counter connected to the anode

Card 1/2

Betev, B.

19

3.

✓ Delayed pulses in halogen counters. T. Ruskov and B. Betev. *Compt. rend. acad. bulgare. sci.* 12, 399-402(1959) (in English).--In low-voltage halogen counters the pulse developed by ionizing radiation is not delayed but develops slowly, requiring 3-7 μ sec. in the interval 450-385 v. This rise time was found by using cosmic radiation to trigger a telescope of 2 high-voltage Geiger-Müller tubes and a halogen counter; the radiation triggering an accurate saw-tooth sweep pulse of an oscilloscope providing the time base on which to view the halogen pulse rise time. The use of a delayed coincidence circuit confirmed these results. The probability of the formation of neg. ions in the low-voltage halogen counter is small. At a rated voltage of 400 v., low-voltage halogen counters can successfully be used in coincidence circuits with a resolving time of 5×10^{-7} sec. if the threshold of the recording device is below 0.6 v.

A. R. Gennaro

WTS
S/194/62/000/002/036/096
D201/D301

9.6.15⁰

AUTHORS: Betev, Bot'o and Mitrani, Leon

TITLE: Properties of halogen counters with artificial extinction of discharge

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 2, 1962, abstract 2-3-69s (Izv. Fiz. in-t s ANEB, 1960, 8, 79-90)

TEXT: The results of experimental investigations, carried out with an arrangement permitting measurement of the dead time of the type CTC-5 (STS-5) counter (C) and for determining the probability of a pulse appearing during time t after a given pulse had been displayed. The discharge of C was terminated by means of a single-shot multivibrator, the anode of one triode being connected to the C anode through a 640 pF capacitor. The multivibrator could be controlled so as to produce the quenching pulses of varying durations and amplitudes; the restoring time of the multivibrator was determined by a network with $RC = 3$ microseconds. The experiments have

Card 1/2

Properties of halogen ...

S/194/62/000/002/036/036
D201/D301

shown that the dead time of C might be reduced to ~10 microseconds which differs little both from that of the multivibrator and the average lifetime of negative ions (~8.7 μ sec.). The curves of $N_c/N_c^0 = f(t)$ are given for various amplitudes of the quenching pulse and of the C supply voltages. At large voltages, e.g. 400 V, the curves exhibit a maximum for values of t equal to 30 - 60 μ sec, owing to the formation of negative ions during the discharge. This maximum decreases with the amplitude of the quenching pulse increasing from 100 to 530 V. The last value corresponds to the case when during the quenching pulse a voltage of opposite polarity is applied to C. 7 references. / Abstracter's note: Complete translation. _/

Card 2/2

DRASEV, M.[Drashev, M.]; DERSANSZKI, A.[Derzhanski, A.]; BETEV, B.

Electronically stabilized high stability voltage source with small internal resistance. Meres automat 8 no.6:179-182 '60.

1. A Bulgar Tudomanyos Akademia Fizikai Intezetének munkatársai.

(Electric discharges through gases)
(Voltage regulators)

28921

B/056/61/041/004/004/019
B108/B102

3.2410

AUTHORS: Bozoki, G., Fen'vash, E., Shander, T., Bales, O., Batagui, M.,
Fridlender, Ye., Botov, B., Kavlakov, Sh., Mitrani, L.

TITLE: Absorption of nuclear-active cosmic-ray particles in air

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,
no. 4(10), 1961, 1043-1045

TEXT: The absorption of the nuclear-active component of cosmic radiation in air was measured at various altitudes above sea level. Showers were recorded with a coincidence arrangement of counters installed in a lead block (Fig. 1). The muon background was measured in Budapest 8 m underground (17 m water equivalent) to secure the recording of sixfold-coincidences due to muons only. The sixfold coincidences were recorded by the pair-connected counters 5 and 7, and 6 and 8. This underground measurement, together with the other measurements at various altitudes, made it possible to obtain corrections for background to the coincidence measurements with nuclear-active cosmic-ray particles. Results:

Card 1/4

28921
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B108/B102

Absorption of nuclear-active cosmic-...

Place of measurement	Depth, g/cm ²	Coincidences per hour
Bucharest (80 m above sea level)	1009	1.00 ± 0.04
Budapest (410 m)	969	1.55 ± 0.04
Bushteni (950 m)	907	2.37 ± 0.04
Pik Stalina (2925 m)	703	13.67 ± 0.11

The absorption mean free path λ_a for nuclear-active particles in air was found to be $(119 \pm 1) \text{ g/cm}^2$. From the frequency of coincidences, the authors estimated the particle mean energy to amount to 30 Bev. The authors thank Professor L. Yanoshi, Professor G. Nadzhakov, and Professor I. Auslender for their interest and advice, N. Akhababyan, I. Kh. Ionn,

Card 2/4₅

23921

Absorption of nuclear-active cosmic-...

S/056/61/041/004/004/019
B108/B102

Y. Kokh, G. Taler, K. Tsige'man, and Y. Shnirer for the installation of the experimental device, and E. Rupp for assistance in calculations. Mention is made of Sh. A. Azimov, V. F. Vishnevskiy, N. I. Khil'ko (DAN SSSR, 78, 231, 1951), and of K. P. Ryzhkova and L. I. Sarycheva (ZhETF, 28, 618, 1955). There are 2 figures, 1 table, and 8 references: 3 Soviet-bloc and 5 non-Soviet. The four references to English-language publications read as follows: I. Tinlot, Phys. Rev., 74, 1197, 1948; L. Hodson, Proc. Phys. Soc., A65, 702, 1952; E. P. George, A. Jason, Proc. Phys. Soc., A63, 1081, 1950; H. S. Bridge, R. H. Rediker, Phys. Rev., 88, 206, 1952.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut fiziki Vengerskogo Akademii nauk, Budapesht (Central Scientific Research Institute of Physics of the Hungarian Academy of Sciences, Budapest) (G. Bozoki, E. Fen'vosh, T. Shandor), Institut yadernoy fiziki v Bukharest, Rumyniya (Institute of Nuclear Physics in Bucharest, Romania) (O. Balca, M. Batagui, Ye. Fridlender), Fizicheskiy institut s Atomnoy nauchno-eksperimental'noy bazoy v Sofii, Bolgariya (Institute of Physics With Atomic Scientific Test Base in Sofia, Bulgaria) (B. Betev, Sh. Kavlakov, L. Mitrani).

Card 3/4
3

S/035/62/000/003/009/053
A001/A101

AUTHORS: Mitrani, L., Betev, B., Kavlaikov, Shch., Apostolov, D.

TITLE: Twenty-seven-day variation in intensity of μ -meson component of cosmic radiation during enhancement of solar activity

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 36, abstract 3A277 ("Izv. Fiz. in-t s ANEB", 1961, v. 9, no. 1, 121-131, Bulgarian; Russian and English summaries)

TEXT: In 1957 - 1958 during the IGY continuous measurements of μ -meson component of cosmic radiation were carried out. For this purpose, two crossed narrow-angle counter telescopes were used which were mounted at a distance of 30° from zenith. The data of these measurements were subjected to periodic analysis for detecting the existence of a 27-day period in variations of cosmic radiation intensity. The existence of such a periodicity is proven. Intensity variations in this period correspond to inverse phase of variation in the number of sunspots on the Sun.

From authors' summary

[Abstracter's note: Complete translation]

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An international conference on high-energy physics held in Bulgaria.
Priroda Bulg 10 no.6:103-104 '61.

AKHABABYAN, N.; BETEV, B.; KAVLAKOV, Sht.; POPOVA, I.

Diurnal intensity variation of the hard component of cosmic rays
for 1960-1963 as observed with narrow-angled crossed telescopes.
Geomag. i aer. 5 no.2:230-233 Mr-Apr '65. (MIRA 18:7)

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